

Work Order ID 72089

Tuesday, July 19, 2011 10:09:58 AM



Page 1

Item ID: D2580-1
 Revision ID:
 Item Name: 205 Skidtube bent detail
 Start Date: 7/19/2011 Start Qty: 2.00
 Required Date: 7/26/2011 Req'd Qty: 2.00
 Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:



Run Start



Stop



Approvals: Process Plan: 11-07-19 Date: 11-07-19 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2580	RevD DEO-D1

100

0.00



Skidtubes

Skidtubes

Memo

0.00

1- Inspect mat'l D2500-1-190 for damage.

2-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

3-Open holes to 0.500" as per Dwg D2580 without cutting fluid

4-Deburr holes per QSI002 section 4.2.3 and blow out all chips from inside of tube

5- Chemical Conversion Coat as per QSI 005 4.1

6-Bond web in place per QSI 015.

□□

A/R Sikaflex-291 batch: 117516 □□□

Sikaflex expire date: 12/01/15

Start time and date: 11/07/21 bond for 12hrs

10:30 am.

JW 11-07-21
BB

Wh. 10/02/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 72089

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Page 2

Item ID: D2580-1

Accept



Setup Start



Revision ID:

Stop



Item Name: 205 Skidtube bent detail

Start Date: 7/19/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 7/26/2011 Req'd Qty: 2.00

Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

101

QC6- Inspect dimensions to drawing

0.00



QC

Memo

0.00

Quality Control

2 0 BEU/07/25

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

2 0 BEU/07/25

140

Identify as per dwg & Stock Location: LC

0.00



Packaging

Memo

0.00

Packaging

2 0 BEU/07/25

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Page 3

Item ID: D2580-1

Accept



Setup Start



Revision ID:

Stop



Item Name: 205 Skidtube bent detail

Start Date: 7/19/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 7/26/2011 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/7/26

11-07-25
(2)

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Picklist Print

Tuesday, July 19, 2011 10:10:21 AM

Page 1

Work Order ID: 72089

Parent Item: D2580-1

Parent Item Name: 205 Skidtube bent detail

Start Date: 7/19/2011

Required Date: 7/26/2011

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP B01.11.08 Revised Step 9, 10, 12, and 13 SM 10.12.01 as per DEO D1 DD verf:ec IPP Rev:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2500-1-190

Manufactured

No

100

Each

51.0000

1

2



Ext'n - I Beam Tube 4"

Location

Loc Qty

Loc Code

HALL

9

58427

9

LG

42

66296

42

D2596

Manufactured

No

100

Each

2.0000

1

2



Web, 205 Skidtube

Location

Loc Qty

Loc Code

LG046

72263

2

71826

2

11/07/20

11/07/20

W/O:		WORK ORDER CHANGES					
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DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 *[Signature]*

DEO ATTACHED
UNDER REVIEW

P110570
RMV *P110570*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *72089*

P11-07-19

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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NOTE: Date & initial all entries

Diagram illustrating the cross-section of a pipe with four internal stiffeners. The stiffeners are spaced 3.500 inches apart. The distance from the centerline of the pipe to the centerline of each stiffener is 1.750 inches.

RELEASED
07-06-28

DEO ATTACHED

RMV 411.06.30

Ø0.208

DRILL PRIOR TO D2855 CAP
INSTALLATION (2 PLACES)

AN3-5A BOLT (1)

AN960JD10L WASHER (1)
(2 PLACES)

D2855 CAP

0.40

DETAIL C
SCALE 5:24

SECTION D-D
SCALE 5:24

D2579 SPACER-

D2596 WEB (REF)

5 ALS7-1032-130 (REF)
(TYP 50 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576

[illegible]

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5 1.5 1.5 D

8

1.5 1.5 1.5

P P P P P P P

REFER TO DETAIL C

D3566-1 D3566-5 D3566-1 D3566-13

D3564-11 D3564-5 D3564-9 D3564-13

AN3C4A BOLT (1)
AN960C10L WASHER (1)
(50 PLACES)

DESIGN DRAWN BY

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DESIGN

CHECKED

DATE
07.02.27

DRAWN BY

APPROVED: *[Signature]*

DART

DART AEROSPACE LTD.
HAMPSHIRE, ONTARIO, CANADA

DRAWING NO.

D2580

TITLE	205 SKIDTUBE ASSEMBLY
-------	-----------------------

REV. 0

SHEET 2 OF 3

SCALE
1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

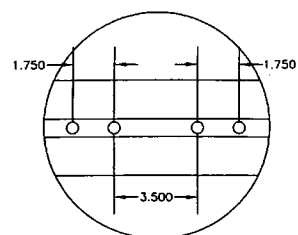
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

11.06.30
RMV 11.06.30

D2580-1 DRILLING DETAIL



RELEASED
07-06-28

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576

~~DEO ATTACHED~~

RMV 6P.06.30

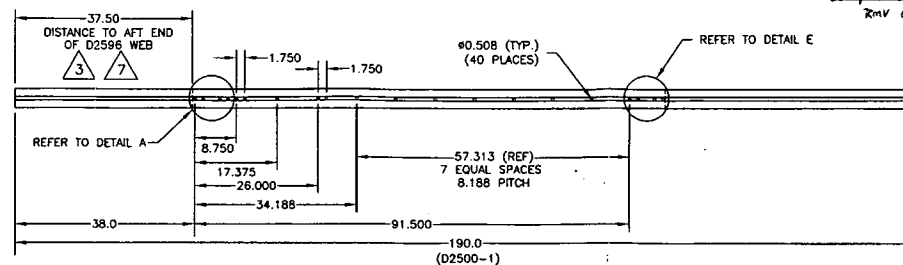
Technical drawing of a circular component, likely a cap or cover, showing various fasteners and dimensions. The drawing includes the following labels and dimensions:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Points to two locations on the outer rim of the cap.
- SEAL WITH SIKAFLEX-241/-291**: Points to the sealing surface of the cap.
- AN3-SA BOLT (1)**: Points to a bolt securing the cap.
- AN960JDTOL WASHER (1) (2 PLACES)**: Points to two locations where a washer is used.
- D2855 CAP**: Points to the cap itself.
- SEE NOTE ii)**: Points to a specific feature on the cap.
- 0.40**: Dimension indicating the thickness of the cap.

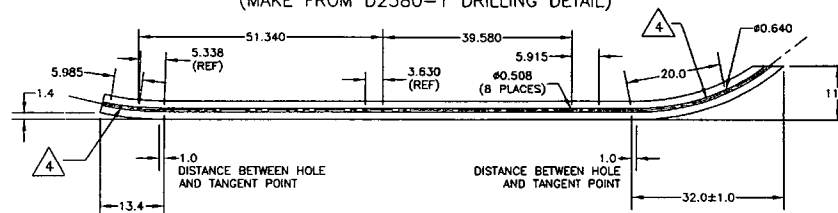
68024

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

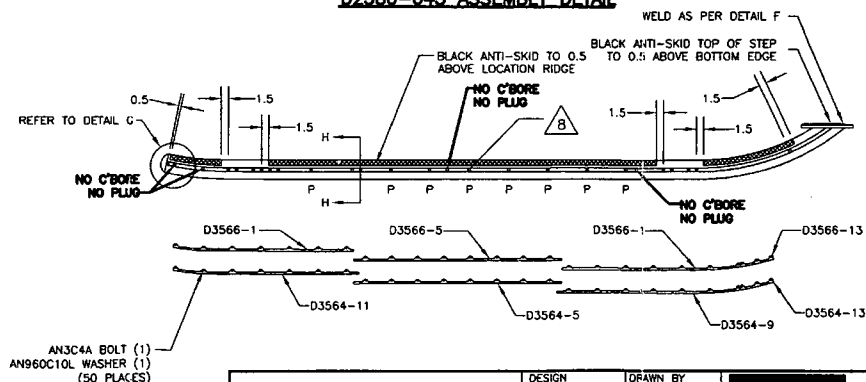
1. CHAMFER HOLE 0.050 X 45°
2. INSERT 02579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE 02579 SPACER TO $\phi 0.437$ X 1.00 DEEP



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

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DESIGN

CHECKED *ml*

DATE _____

07.02.27

DRAWN BY

APPROVED

DART

DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA

	DRAWING NO.
--	-------------

D2580

1	TITLE	2	3	4	5	6	7	8	9	10	11	12

205 SKIDTUBE ASSEMBLY

REV. 0

SHEET 3 OF 3

SCALE

1:24

W/O:		WORK ORDER CHANGES					
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